

EX CORROSION GUARD® VX

Ex db IIC, Ex eb IIC, Ex ta IIIC, Ex nR IIC

VORTEX BARRIER GLAND for Unfilled Steel and Aluminium Armoured Cable

Features and Benefits

- For highly corrosive, wet locations, Group II, III, Zone 1, 2, 20, 21 and 22 hazardous areas.
- For unfilled hygroscopic multicore cables refer to IEC 60079-14; 9.3.2 and 10.6.2a, IEC 61892-7, 10.6 and 10.7.
- Freely rotating captive cone and inspectible cone ring provides an armour clamp and earth bond on steel wire armour and aluminium armour. Two-part handling, freely rotating captive cone and inspectible cone ring provides an armour clamp and earth bond on steel wire armour.
- Corrosion Guard® screws onto the gland body and seals over the outer sheath of the cable giving an IP68 and deluge proof seal protecting the armour and metal parts of the gland.
- Instantly mixed and injected Resin forms a 100% barrier seal around the individual cores of the cable.
- Prevents explosive gases and/or liquids transmitting down the cable.
- Precision manufactured from high-quality brass (Marine Grade Electroless Nickel Plated™).
- Supplied with a thread sealing-gasket (parallel threads only).

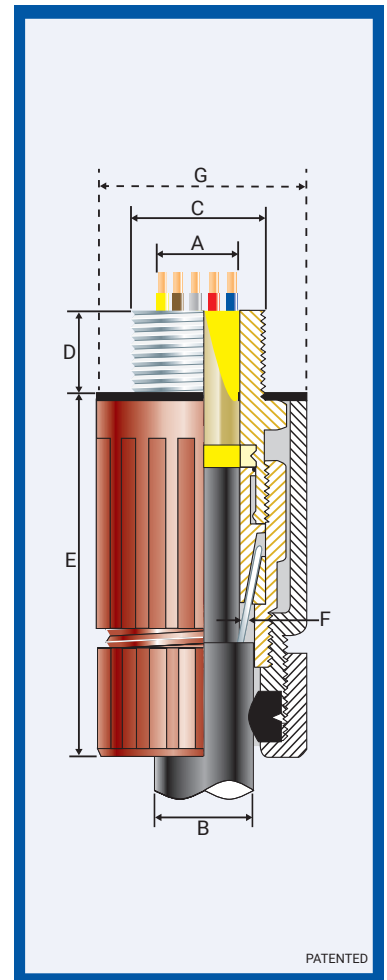


Technical Data

| | |
|---------------------------|---|
| Type: | Ex Corrosion Guard® VX (VORTEX®) |
| Gland Material: | Brass (Marine Grade Electroless Nickel Plated™) |
| Corrosion Guard Material: | Glass Reinforced Polyester Compound / PBT |
| Seal Material: | Standard Thermoset Elastomer, Quick Setting Injection Barrier Resin |
| Sealing Gasket Material: | HDPE, Nylon 66 or PTFE |
| Cable Type: | Steel Wire Armour, Aluminium Armour |
| Armour Clamping: | Rotating Captive Cone and Inspectible Cone Ring |
| Sealing Area: | Inner Sheath, Outer Sheath and Vortex® Resin around Cable Conductors |
| Optional Accessories: | Adaptor, Reducer, Locknut and Serrated Washer |
| Note: | The installer should ensure that the materials are suitable for the installation environment. |

Standards and Certifications

| | | |
|------------------------------------|---|------------------------------------|
| Equipment Protection Levels: | IECEX/INMETRO: Ex db IIC Gb, Ex eb IIC Gb, Ex nR IIC Gc, Ex ta IIIC Da ATEX/UKEX: Ex II 2/3G 1D, Ex db IIC Gb, Ex eb IIC Gb, Ex ta IIIC Da, Ex nR IIC Gc TR CU: 1Ex d IIC Gb X / 1Ex e IIC Gb X / 2Ex nR IIC Gc X / Ex tb IIIC Db X | |
| Continuous Operating Temp: | -60°C to +100°C | |
| Conformance: | Standard: Certificate: | |
| IEC/BS EN | IEC/BS EN 62444 | CML 14CA364 |
| IECEX | IEC 60079 Part 0, 1, 7, 15, 31 | IECEX CML 18.0018X |
| ATEX | EN 60079 Part 0, 1, 7, 31 EN 60079 Part 0, 15 | CML 16ATEX1001X CML 16ATEX4002X |
| UKEX | BS EN 60079 Part 0, 1, 7, 31 BS EN 60079 Part 0, 15 | CML 21UKEX1011X CML 21UKEX4006X |
| INMETRO (Brazil) | ABNT NBR IEC 60079 Part 0, 1, 7, 15, 31 | TÜV 15.0483X |
| TR CU (Russia) | ГОСТ 31610-0, 15, ГОСТ IEC 60079-1 ГОСТ P MЭК 60079-7, 31 | EAЭC RU C-ZA.HA91.B.00245/21 |
| SANS | SANS/IEC 60079 Part 0, 1, 7, 15, 31 | MASC MS/22-9001X |
| IP66/68 100m - Parallel | IEC 60529 | CML 15Y728 |
| IP68 - Tapered and approved grease | IEC 60529 | IECEX CML 18.0018X |
| Deluge Protection | DTS-01 | CML 14CA370-2 |
| Corrosion Protection | ASTM B117-11, BS EN ISO 3231 | EXOVA N968667 |
| Marine ABS | IEC 60079 Part 0, 1, 7, 15, 31, IEC 60529 | ABS 20-1952706-1-PDA |
| DNV | IEC 60079 Part 0, 1, 7, IEC 60529 | TAE0000010 |
| EMC Compatible | EN 55011, + A1, EN 55022 | SGS EMC305079/1 |



Conditions for Safe Use - X

- The cable glands shall only be used where the temperature, at the point of entry is between -60°C to +100°C.
- Only Resin supplied by CCG may be used in the glands.

| Product Code | Gland Size Reference | Metric Entry Thread | | Cable Detail | | | | Max Length 'E' | Max. Dia. Over Cores | Max. No. of Cores | Armour Dia | | Max Dia 'G' | Hexagonal Detail | | Install. Torque Value Nm |
|--------------|----------------------|---------------------|---------|--------------|---------|---------|---------|----------------|----------------------|-------------------|------------|---------|-------------|------------------|-------------|--------------------------|
| | | 'C' | Min 'D' | Min 'A' | Max 'A' | Min 'B' | Max 'B' | | | | Min 'F' | Max 'F' | | Max 'Flats' | Max 'Corns' | |
| 056100-16-VX | 00-16ss | M16x1.5 | 15 | 3.0 | 8.5 | 8.0 | 13.5 | 46.0 | 8.0 | 6 | 0.20 | 0.90 | 33.0 | 24.0 | 27.0 | 21.0 |
| 056100-VX | 00-20ss | M20x1.5 | 15 | 3.0 | 8.5 | 8.0 | 13.5 | 46.0 | 10.9 | 10 | 0.20 | 0.90 | 33.0 | 24.0 | 27.0 | 21.0 |
| 05610-VX | 0-20s | M20x1.5 | 15 | 7.0 | 12.0 | 11.5 | 16.0 | 46.0 | 10.9 | 10 | 0.20 | 1.25 | 33.0 | 24.0 | 27.0 | 21.0 |
| 056101-VX | 1-20 | M20x1.5 | 15 | 9.0 | 15.0 | 14.5 | 20.5 | 51.0 | 12.5 | 13 | 0.20 | 1.25 | 36.0 | 27.0 | 30.0 | 21.0 |
| 056122-VX | 2s-25s | M25x1.5 | 15 | 11.0 | 17.5 | 16.0 | 24.5 | 58.0 | 15.5 | 20 | 0.20 | 1.60 | 46.0 | 35.0 | 39.0 | 30.0 |
| 056102-VX | 2-25 | M25x1.5 | 15 | 14.0 | 20.0 | 20.5 | 26.5 | 58.0 | 15.5 | 20 | 0.20 | 1.60 | 46.0 | 35.0 | 39.0 | 30.0 |
| 056133-VX | 3s-32s | M32x1.5 | 15 | 15.0 | 22.0 | 23.0 | 30.5 | 67.0 | 21.7 | 40 | 0.20 | 2.00 | 53.0 | 42.0 | 47.0 | 42.0 |
| 056103-VX | 3-32 | M32x1.5 | 15 | 19.0 | 26.5 | 26.5 | 33.5 | 67.0 | 21.7 | 40 | 0.20 | 2.00 | 53.0 | 42.0 | 47.0 | 42.0 |
| 056144-VX | 4s-40s | M40x1.5 | 15 | 22.0 | 31.5 | 30.0 | 39.5 | 74.0 | 30.0 | 60 | 0.30 | 2.00 | 68.0 | 52.0 | 59.0 | 52.0 |
| 056104-VX | 4-40 | M40x1.5 | 15 | 26.0 | 34.0 | 33.0 | 42.5 | 74.0 | 30.0 | 60 | 0.30 | 2.00 | 68.0 | 52.0 | 59.0 | 52.0 |
| 056155-VX | 5s-50s | M50x1.5 | 15 | 29.0 | 38.0 | 34.0 | 47.5 | 89.0 | 36.3 | 80 | 0.40 | 2.50 | 84.0 | 65.0 | 73.0 | 57.0 |
| 056105-VX | 5-50 | M50x1.5 | 15 | 34.0 | 44.5 | 42.5 | 52.5 | 89.0 | 36.3 | 80 | 0.40 | 2.50 | 84.0 | 65.0 | 73.0 | 57.0 |
| 056166-VX | 6s-63s | M63x1.5 | 15 | 38.0 | 50.0 | 45.5 | 60.5 | 102.0 | 47.9 | 100 | 0.40 | 2.50 | 110.0 | 80.0 | 90.0 | 66.0 |
| 056106-VX | 6-63 | M63x1.5 | 15 | 44.0 | 56.5 | 52.5 | 65.5 | 102.0 | 47.9 | 100 | 0.40 | 2.50 | 110.0 | 80.0 | 90.0 | 66.0 |
| 056177-VX | 7s-75s | M75x1.5 | 15 | 50.0 | 62.0 | 57.0 | 72.5 | 106.0 | 58.2 | 120 | 0.40 | 3.15 | 124.0 | 96.0 | 108.0 | 72.0 |
| 056107-VX | 7-75 | M75x1.5 | 15 | 56.0 | 67.5 | 65.5 | 78.0 | 106.0 | 58.2 | 120 | 0.40 | 3.15 | 124.0 | 96.0 | 108.0 | 72.0 |
| 056108-VX | 8-80 | M80x2.0 | 20 | 59.0 | 69.0 | 65.0 | 77.5 | 117.0 | 61.5 | 140 | 2.50 | 3.15 | 124.0 | 96.0 | 108.0 | 80.0 |
| 056199-VX | 9s-90s | M90x2.0 | 20 | 66.0 | 75.0 | 73.0 | 86.5 | 117.0 | 70.5 | 160 | 3.00 | 3.50 | 124.0 | 111.0 | 125.0 | 89.0 |
| 056109-VX | 9-90 | M90x2.0 | 20 | 74.0 | 81.5 | 82.0 | 91.0 | 117.0 | 70.5 | 160 | 3.00 | 3.50 | 140.0 | 111.0 | 125.0 | 89.0 |
| 056110-VX | 10-100 | M100x2.0 | 20 | 81.0 | 91.0 | 90.0 | 100.0 | 117.0 | 79.0 | 180 | 3.00 | 3.50 | 140.0 | 125.0 | 141.0 | 98.0 |

All dimensions are in mm. Intermediate thread sizes are available on request.

CCG reserves the right to make alterations to the technical data, dimensions, designs and products available without notice. The illustrations cannot be considered binding. Please contact CCG for assistance.

EXCGVX-BG120325

EX CORROSION GUARD® VX (VORTEX®)

ENCLOSURES AND EQUIPMENT TO WHICH CABLE GLANDS ARE FITTED:-

- Must be made from materials which are compatible with the cable gland materials.
- Have a sealing area around the cable gland entry point with a surface roughness <math>< Ra 6.3 \mu m.</math>
- Have entries that are perpendicular to the enclosure face in the area where the cable gland will seal to within 2.5°.
- Are sealed using the supplied sealing gasket.

MUST HAVE THREADED ENTRIES

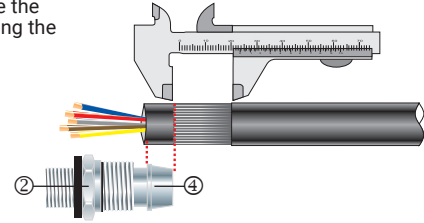
- The same thread size as the cable gland. (Thread adapters should be used to correct any mismatch).

- With a thread tolerance of metric class '6H' or equivalent.
 - Where the thread length is a minimum of 10mm for Ex d applications or 3mm for all other applications
- OR CLEARANCE HOLES** (not Ex d)
- Where the hole size is the thread nominal size with a tolerance of +0.1 to +0.7mm. (e.g. the clearance hole for an M20 thread will have a diameter between 20.1mm and 20.7mm).
 - Through material that is between 1mm and 12mm thick. (Thicker materials can be accommodated using glands with extended entry threads).

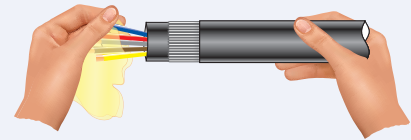
1. Separate the inner ② from the gland body ③. Prepare the cable cutting back the outer sheath to expose the armour to the length as per table below. Strip back the inner bedding to expose the inner cable cores using the cone ④ as a gauge. Remove all exposed tapes and foils on the multicore cables.

| Gland Size | Armour Length | Gland Size | Armour Length | Gland Size | Armour Length | Gland Size | Armour Length |
|------------|---------------|------------|---------------|------------|---------------|------------|---------------|
| 00-16ss | 20.0 | 2-25 | 25.0 | 5s-50s | 35.0 | 7-75 | 50.0 |
| 00-20ss | 20.0 | 3s-32s | 30.0 | 5-50 | 35.0 | 8-80 | 50.0 |
| 0-20s | 20.0 | 3-32 | 30.0 | 6s-63s | 45.0 | 9s-90s | 50.0 |
| 1-20 | 25.0 | 4s-40s | 30.0 | 6-63 | 45.0 | 9-90 | 50.0 |
| 2s-25s | 25.0 | 4-40 | 30.0 | 7s-75s | 50.0 | 10-100 | 60.0 |

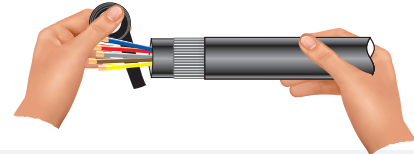
If the cable cores have screens these should be cut away or twisted together into a single core. This single core should be insulated with heat shrink tubing or coated with insulating varnish.



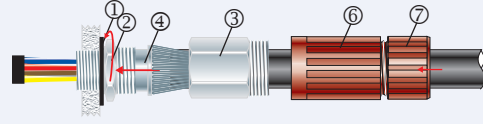
2. Using a clean cloth, clean the cable cores insulation.



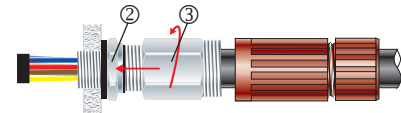
3. Using the insulation tape, bundle the cores together at the end.



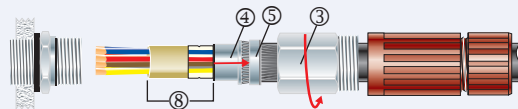
4. To maintain IP66/68, ensure the thread gasket ① is in place. Screw the inner ② into the apparatus and tighten to installation torque using a CCG Spanner. If apparatus is untapped use a locknut. Pass the bundled cable cores through corrosion guard outer nut ⑦, corrosion guard body ⑥ and the gland body ③. Pass the bundled cables cores through the inner ② and the inner diaphragm seal and splay the armour wires over the cone ④.



5. Screw the gland body ③ onto the inner ② until hand tight, then tighten with a CCG Spanner with 3/4 turn to lock the armour between the cone ④ and the cone ring ⑤.



6. Unscrew the gland body ③. Check that the armour is locked between the cone ④ and the cone ring ⑤ (O-Ring on the cone ring ⑤ is sacrificial). Withdraw the barrier pot sub-assembly ⑧ and the bundled cables. Remove the insulation tape.



Only Resin supplied by CCG may be used in the glands.

7. Remove the cap ⑪ from resin applicator and attach the mixing nozzle ⑫ (use extension nozzle for small multicore cables). Whilst holding the barrier pot sub-assembly ⑧ upright and holding the diaphragm seal firmly against the cable sheath inject the resin into the resin chamber*. Ensure the resin fills the inspectible resin seal pot ⑨ all the way to the top of the protective resin pot ⑩ and wipe any excess resin away.

Wait for the resin to change from a liquid to a solid state, this should take:

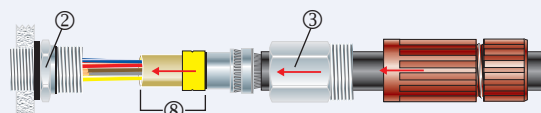
- 15 minutes at 10°C
- 7 minutes at 20°C
- 6 minutes at 30°C
- 5 minutes at 40°C

The cable gland can now be handled safely, and the resin will continue to cure until it reaches its full hardness. For installations in less than 5°C Ambient, warm the Resin tube in warm water at ± 50°C. If there is Resin left in the tube, discard the mixing nozzle ⑫ and replace the cap ⑪ for use with the next gland.

* The installation is acceptable if the cable sheath is pushed 2mm or 3mm into the resin seal.



8. Re-insert the barrier pot sub-assembly ⑧ back into the inner ②. Tighten the gland body ③ to the required torque using a CCG Spanner.



9. Slide the corrosion guard body ⑥ and the corrosion guard outer nut ⑦ over assembled gland, screw the corrosion guard body ⑥ onto gland. **Hand tighten** the corrosion guard body ⑥ and the corrosion guard outer nut ⑦ to produce the required dust and waterproof seal IP66/68.

